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MONDAY, JANUARY 8TH, 1855.

THOMAS ROMNEY ROBINSON, D.D., PRESIDENT,  
in the Chair.

THE Right Hon. Francis Blackburne ; Richard G. Butcher, Esq. ; James H. Owen, Esq. ; and Edward Senior, Esq., were elected Members of the Academy.

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On the recommendation of the Council it was Resolved :—

I. To place the sum of £50 at the disposal of the Committee of Antiquities, for the purchase of antiquities.

II. That permission be given to the Council to exchange with Mr. Anketell a modern representation of the Crucifixion, made of ivory, and not Irish, now in the Academy's collection, for one made of bronze, and probably of great antiquity, and of native manufacture.

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Rev. Joseph Galbraith read a Paper by Capt. H. L. Renny, C.E., on the Use of the Hygrometer in the Barometric Measurements of Heights.

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Dr. Allman read a Paper on the existence of a true medusoid structure in the male gemmæ of Hydra.

In this communication the author endeavoured to demonstrate that the peculiar spermatophorous tubercles which are developed upon the body of Hydra at the commencement of winter, possess a true medusoid type of structure, and thus form no exception to the general law which he had already enunciated, that the fixed reproductive capsules of the hydroid zoophytes are constructed on the medusoid type, and that for

true sexual reproduction in these animals the existence of such a type is a necessary condition.

In *Hydra fusca* the organs in question consist, in their early stage, of minute depressed tubercles, attached by the whole of their broad base to the body of the Hydra. In their completely developed condition they present the appearance of more or less spherical capsules, attached by a contracted base to the Hydra, and slightly prolonged at the opposite point into a small mamilla, which is alternately perforated by an aperture for the egress of the contents.

Into the interior of these bodies the gastric cavity of the Hydra is continued as a blind sac, which occupies the axis of the capsule and gives off from its sides numerous ramified tubes, which extend themselves in the interval between the central sac and the walls of the capsule. In these tubes, whose cavity, however, does not seem to communicate with that of the central sac, the spermatozoa appear to be developed, and subsequently escape into the cavity of the capsule to be finally expelled through the aperture in its summit.

We have here, as in Cordylophora and the marine Hydroida, the walls of the capsule representing the disc of a Medusa, the central sac homologous with the stomach, and the spermatophorous tubes with the radiating gastro-vascular canals.

The spermatozoa possess a conical body with a long caudal filament attached to the larger end. They are produced in the interior of vesicles of evolution, a single spermatozoon being formed in each vesicle, and the vesicles themselves are produced in the interior of mother-cells. These mother-cells may generally be seen to contain two or three spermatozoa, which appear to be often free on the mother-cell, but which are also doubtless frequently contained each in its own vesicle of evolution, though the extreme delicacy of the latter renders it invisible through the walls of the surrounding cell. Very frequently the bodies of the spermatozoa may be seen still in-

cluded within the mother-cell, while the tails have become disengaged and vibrate freely in the external fluid.

In the mother-cells, besides the spermatozoa in their vesicles of evolution, a large, well-defined, nucleus-like body, with considerable refractive powers, seems to be invariably present.

The motions of the free spermatozoa are peculiar, and consist in a succession of sudden jerks.

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By permission of the Academy, Mr. T. A. Dillon explained a plan of his for ascertaining the deviation of ships' compasses arising from local attraction.

“SIR,—I have the honour to submit, for the consideration of the Royal Irish Academy, a plan which I hope will tend in some degree towards reassuring the proprietors and commanders of iron ships, whose uneasiness in consequence of Dr. Scoresby's communication, ‘On the Influence of Iron Ships over their own Compasses,’ has been, and still continues to be, of the most serious character.

“What Dr. Scoresby says is this :—‘So soon as a vessel made of iron puts to sea and undergoes the tossing and straining of the waters, she becomes an immense magnet, as it were, something in the same way that a poker is transformed into a magnet by striking it repeatedly with a hammer.’ And this distinguished philosopher goes on to state, that the loss of the *Tayleur*, and of many other iron vessels, can be assigned to no other cause than to the very startling one above mentioned ; for the proximity of such an enormous magnet to the delicate compass needles disturbs and overrules these instruments as a matter of course. The ship goes astray, and all hands perish.

“Now, it little matters whether Professor Scoresby's magnetic theory be correct in every particular or not. We know that the most admirably constructed instruments have mysteriously gone wrong, even after every scientific precaution had been taken to preserve and compensate them in the most perfect